



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,211	11/28/2001	Rene Lazecki	P/1336-156	1227
2352	7590	04/16/2004	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			SAADAT, CAMERON	
			ART UNIT	PAPER NUMBER
			3713	

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/996,211

Applicant(s)

LAZECKI ET AL

Examiner

Cameron Saadat

Art Unit

3713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-13, 17-19 is/are rejected.
- 7) ☐ Claim(s) 6, 7 and 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3713

DETAILED ACTION

In response to amendment filed 3/22/2004, claims 1-20 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-12, are rejected under 35 U.S.C. 102(b) as being anticipated by Robertsson (USPN 3,927,480; hereinafter Robertsson).

Regarding claim 1, Robertsson discloses a method for simulating the effect of an exploding projectile fired by a weapon, the method comprising: emitting a weapon signal 28 from a weapon 4 toward a target area 2; detecting the weapon signal by a sensor 6 located near the target area 2 (See Fig. 1); transmitting an impact signal when the weapon signal is sensed by the sensor 6 and causing the impact signal to cover a simulated impact area including a first portion of the impact area which is covered by the weapon signal from the weapon and a second portion of the impact area which is not covered by the weapon signal of the weapon and which is part of the impact area of a simulated detonation of a projectile that would be fired by the weapon to the impact area (Col. 5, lines 15-17, 26-34; Col. 6, lines; Fig. 5, refs. 14,21,26,27).

Regarding claim 2, Robertsson discloses a method for simulating the effect of an exploding projectile fired by a weapon, the method comprising: emitting a weapon signal 28 from a weapon 4 toward a target area 2; detecting the weapon signal by a sensor 6 located near the target area 2 (See Fig. 1); transmitting an impact signal when the weapon signal is sensed by the sensor 6 and causing the impact signal to cover a simulated impact area including a first portion of the impact area which is

Art Unit: 3713

covered by the weapon signal from the weapon and a second portion of the impact area which is not covered by the weapon signal of the weapon and which is part of the impact area of a simulated detonation of a projectile that would be fired by the weapon to the impact area; and determining the trajectory of the simulated projectile fired by the weapon based on the angle of incidence of the weapon signal on the sensor; and modifying the impact signal directionally for approximating the area covered by the impact signal to simulate the impact area of detonation of a real projectile near the target (Col. 5, lines 12-17, 26-34; Col. 6, lines; Fig. 5, refs. 14,21,26,27).

Regarding claim 3, Robertsson discloses a device for simulating the effect of exploding projectiles fired by a weapon toward a target area, the weapon 5 comprising a signal emitting device 4 to emit a weapon signal; the device comprising a sensor 7, 14 located near the target area 2 and adapted for sensing a weapon signal from a weapon; a transmitter 27 operatively linked to the sensor such that a weapon signal is detected by the sensor and the transmitter emits an impact signal over the impact area of the simulated projectile (Col. 5, lines 15-17, 26-34).

Regarding claim 4, Robertsson discloses a device for simulating the effect of exploding projectiles fired by a weapon toward a target area, the device comprising: a sensor 14 for being located near the target area 2 and adapted for sensing the weapon signal 4 from the weapon 5; a transmitter 27 operatively linked to the sensor 14 such that the weapon signal is detected by the sensor and indicating the simulated firing of a projectile with an explosive effect in the target area operates the transmitter to emit an impact signal over the impact area of the simulated projectile; wherein the sensor is directionally sensitive and adapted to sense the direction from which the weapon signal is received; the transmitter 27 connected with the sensor is operable to emit the impact signal with a directionally variable range, so that the transmitter is adapted for being triggered by the sensor according to the angle of incidence of the weapon signal of the weapon in such a manner that the area supplied with an effective impact signal by

Art Unit: 3713

the transmitter approximates the impact of an exploding projectile (Col. 5, lines 15-17, 26-34; Fig. 5, refs. 14,21,26,27).

Regarding claim 5, Robertsson discloses a device, wherein the sensor senses a weapon signal over a total angular range, the sensor comprising a plurality of sensor elements 6 and 7 (See Fig.3), the sensor elements covering a sector of the total angular range covered by the sensor for enabling the sensor 14 to determine the angle of incidence of the weapon signal emitted by the weapon.

Regarding claims 8, Robertsson discloses a device, further comprising a reflector 6 for reflecting at least an effective portion of the weapon signal back toward the weapon (See Fig. 5).

Regarding claims 9, Robertsson discloses a device, wherein the reflector 6 and the weapon 5 are positioned so that the signal from the weapon is reflected by the reflector back to the weapon, and the weapon emits a weapon signal to be transmitted to the sensor by firing of the weapon (See Fig. 5).

Regarding claim 10, Robertsson discloses device, further comprising a weapon 5 spaced from the sensor 14, 7 operable to emit a weapon signal toward the (See Fig. 5).

Regarding claim 11, Robertsson discloses device, wherein the sensor is responsive to laser light and the weapon includes a device for emitting laser light toward the sensor (Col. 5, lines 35-50).

Regarding claim 12, Robertsson discloses device, wherein the sensor is responsive to laser light (Col. 5, lines 35-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3713

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertsson (USPN 3,927,480; hereinafter Robertsson), in view of Hopmeier et al. (USPN 6,599,127; hereinafter Hopmeier).

Regarding claim 13, Robertsson discloses transmitter 27 which comprises a light source for emitting an impact signal in the form of light (Col. 5, lines 26-34). Robertsson discloses all of the claimed subject matter with the exception of explicitly disclosing that transmitter 27 emits an impact signal in the form of *laser* light. However, Hopmeier discloses a device for simulating the effect of exploding projectiles fired by a weapon toward a target area, wherein simulated weapon 108 transmits a weapon signal to a sensor of controller 104, and wherein controller 104 transmits an impact signal to gas supply 102 via laser light (Col. 4, lines 48-53). Hence, in view of Hopmeier, it would have been obvious to an artisan to modify the transmitted impact signal light beam described in Robertsson, by transmitting a *laser* light beam, in order to provide a suitable form of broadcast communication, and thereby providing a wireless link for transmitting impact information to other devices to simulate an explosion.

Regarding claims 17-19, Robertsson discloses a device, wherein the sensor 14 is sensitive to laser light. Robertsson does not explicitly disclose that the sensor is sensitive to radio signals or ultrasonic signals (as per claim 17), and that the transmitter is adapted to emit an impact signal in the form of a radio signal or ultrasonic signal (as per claims 18-19). However, Hopmeier discloses a device for simulating the effect of exploding projectiles, wherein impact information is transmitted and detected in the form of radio frequency (Col. 4, lines 48-53). Thus, in view of Hopmeier, it would have been

Art Unit: 3713

obvious to implement radio frequency communication between devices in order to wirelessly transmit impact information, in order to simulate the effect of exploding projectiles.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Independent Claim 20 is allowable; the following is an examiner's statement of reasons for allowance: Patentability is seen in, although not limited to:

the combination of elements specifically claimed, including: simulating combat action comprising an *obstacle in the line of sight of an entire impact area of a projectile*; the obstacle having a periphery; a device for simulating the effect of exploding projectiles fired by the weapon toward a target area, *wherein the device is located at the periphery of the obstacle*, and wherein the device comprises a sensor for sensing a weapon signal and a transmitter linked to the sensor such that when the weapon signal is detected by the sensor the transmitter transmits an impact signal over the impact area of the simulated projectile.

Claims, 6-7, 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Patentability is seen in, although not limited to:

- Dependent claims 6 and 7 - the combination of elements specifically claimed, including: simulating the effect of exploding projectiles fired by a weapon toward a target area, comprising a sensor for sensing a weapon signal from a weapon, wherein a sensor is directionally sensitive for sensing the direction from which a weapon signal is received;

and wherein the sensor is linked to a transmitter that emits an impact signal over the impact area of the simulated projectile in a directionally variable range; wherein the sensor senses the weapon signal over a total angular range, the sensor further comprising a plurality of sensor elements, each sensor element covering a sector of the total angular range covered by the sensor to determine the angle of incidence of the weapon signal emitted by the weapon;

(as per claim 6) wherein the transmitter comprises a *plurality of* transmitter elements connected with at least one of the plurality of sensor elements for a particular sector, wherein each transmitter element is triggered by a sensor element according to the angle of incidence of the weapon signal;

(as per claim 7) wherein the transmitter comprises a plurality of transmitter elements connected to the sensor, wherein each transmitter element is associated with a respective sector having a controllable range over a respective part of the impact area, and to adjust the range of the impact signal in the corresponding direction.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa J Walberg can be reached on 703-308-1327. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3713

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CS


Teresa Walberg
Supervisory Patent Examiner
Group 3700